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The Influence of Feather Score on Some Blood Parameters of Laying Hens

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Abstract

The objective of the study was to investigate the effect of feather score on some blood parameters of laying hens. In the study, a total of 45 birds (Lohmann Brown strains) were randomly selected from a 60 weeks-old flock and grouped based on total feather scores obtained from scoring 6 different body parts of the birds: the head, neck, breast, back, wings, and tail. According to the total feather score, the experimental groups consisted of low (6-12, average 10, L), medium (13-17, average 15.40, M) and high (18-24, average 18.87, H). The number of lymphocytes, monocytes, heterophils, eosinophils, basophil cells and heterophil/lymphocyte ratio (H/L) were determined. The results indicated that feather score had a significant influence on monocyte, heterophil ($P<0.001$), but the impact on H/L ratio, lymphocyte and eosinophil was not significant ($P>0.05$). While the H/L ratio and heterophil decreased with the increase in feather scores, the monocytes increased with the increase in feather score. The H/L ratio of the H group was lower compared to M and L groups however, the L group had the highest H/L ratio value of 0.51, which is considered as an indicator of moderate stress. In conclusion, the findings of this study revealed that an average feather score of more than 10 was not very stress-inducing to the birds.

Keywords: Laying hen, feather score, blood parameters, stress response

